Natural Gas Market Prices
Monthly Update

November 3, 2003

NATURAL GAS MARKET PRICE UPDATE

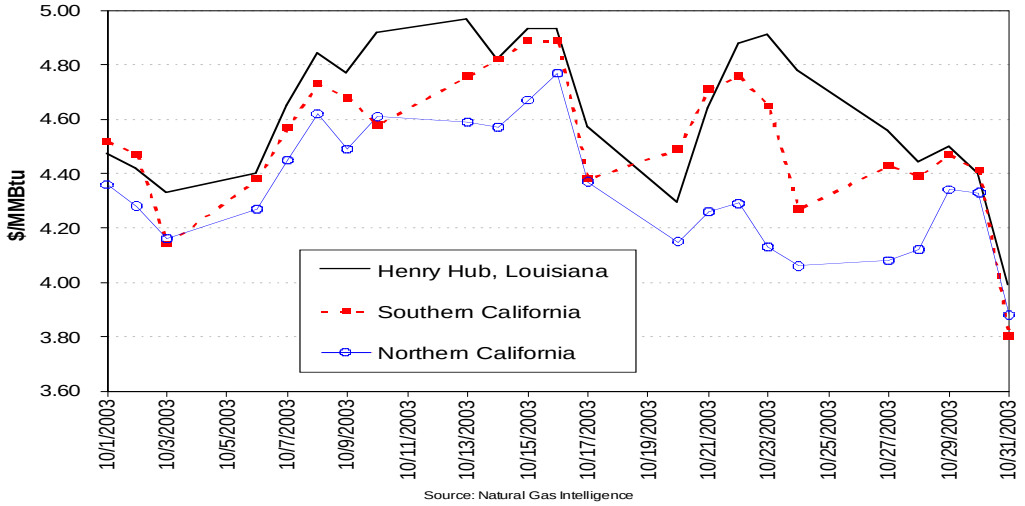
On March 13, 2003, Governor Davis asked the California Energy Commission (Energy Commission) and the California Public Utilities Commission (CPUC) to review the unexpectedly rapid rise in natural gas market prices that occurred in late February 2003. He also asked that the two Commissions issue a report to his office and provide a monthly update of any additional findings.

The previous reports completed the retrospective review of the February 2003 price spike. This report provides an update on natural gas prices in California for the month of October 2003 and the natural gas storage inventory levels for both the state and the nation. More importantly, this report provides an overview of this winter's heating season and expected market conditions. The state's major gas utilities, PG&E, SoCalGas, and SDG&E, have already provided public announcements to their customers to help them prepare for this winter.

Recent California Natural Gas Prices

During October 2003, national natural gas spot market prices oscillated with the prevailing weather patterns across the country that produced chilly, below average temperatures in the eastern half of the nation and hot, summer-like temperatures in the West. Both patterns relented over the last part of the month, bringing gas prices down with them. Last week, natural gas prices averaged $4.43/million British thermal units (MMBtu) in Southern California and $4.22 in Northern California, plunging at the end of the week due to moderate temperatures and low demand throughout the country[1]. California natural gas spot market prices generally stayed below the national benchmark price. Figure 1 compares the natural gas prices in Northern and Southern California to the national Henry Hub spot market prices.

Figure 1
Recent Natural Gas Spot Market Prices



[1] The national and California border spot market prices do not wholly indicate the retail prices that California consumers pay since the California utilities purchase their natural gas using a variety of daily, monthly, and multi-month market options.

Natural Gas Storage Inventories

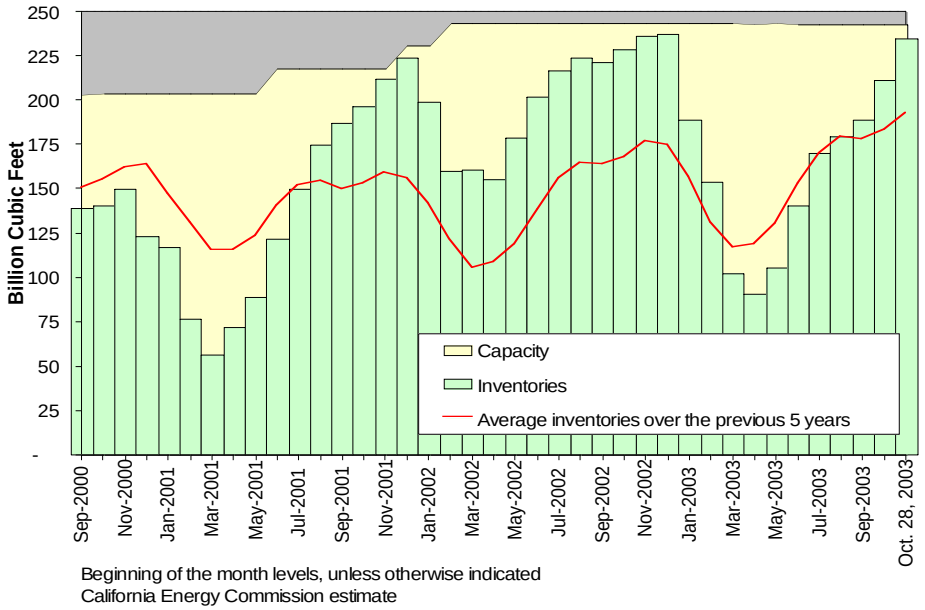
California Gas Storage

During October 2003, the last traditional month of the storage injection season, California gas storage customers moved closer towards filling underground natural gas storage facilities in the state to maximum capacity, making net injections of about 23 billion cubic feet (Bcf), as shown in Figure 2. In doing so, PG&E, Wild Goose, and Lodi have all reached near full capacity.

SoCalGas injected the most gas into storage during October 2003, with net injections of about 11 Bcf. These injections increased its inventory to around 111 Bcf, or 92 percent of capacity. This is virtually identical to SoCalGas' inventories at this time last year. PG&E injected around 6 Bcf of gas during the month, putting PG&E's inventory at 100 percent of its 98 Bcf of working gas capacity. A year ago, PG&E's storage inventory was also at 100 percent full. Wild Goose injected a little more than one Bcf, increasing its storage to 100 percent of capacity. Last year, the facility was filled to capacity. Lodi Gas Storage injected about 5 Bcf into storage during in October, bringing its inventories to 100 percent of capacity. Currently, California storage facilities have about 234 Bcf of inventories, with a combined capacity of about 243 Bcf. The five-year average inventory on November 1 is 192 Bcf, and in 2002, California's inventories peaked in December at around 239 Bcf.

If mild weather persists as expected, it is likely that California's storage injections will continue beyond the end of the traditional injection season on October 31, 2003. The state can take advantage of this moderate weather as the Wild Goose storage facility is expected to officially announce on November 1 the availability of additional storage capacity due to its successful acceleration of this construction project. Wild Goose is adding 15 Bcf of capacity on that date and its customers will likely be able to add gas into their inventories before winter starts.

Figure 2
Monthly California Storage Inventories



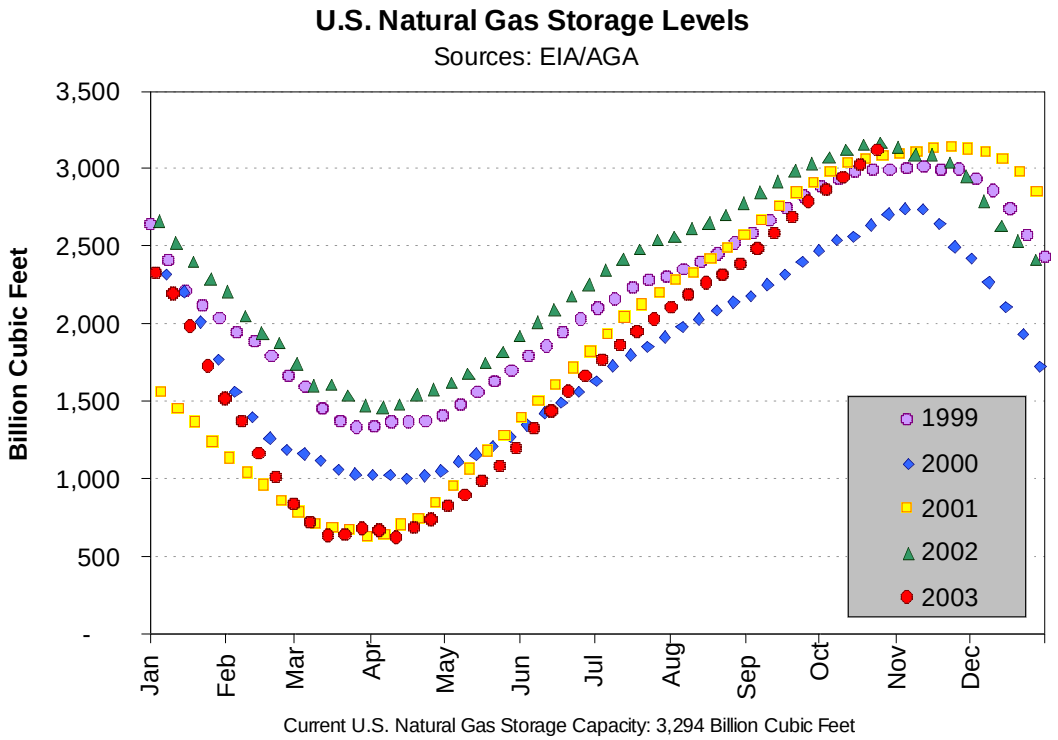
Beginning of the month levels, unless otherwise indicated
California Energy Commission estimate

U.S. Gas Storage

According to the U.S. Energy Information Administration (EIA), U.S. storage-facility operators injected 55 Bcf of gas during the week of October 18 to October 24, 2003, the most recently available data. EIA also revised its estimates of earlier injections upwards by 38 Bcf. The lower-48 states' storage level is currently 3,121 Bcf, compared to 3,171 Bcf a year ago, or almost two percent below last year's level at this time and brings total inventories to almost 95 percent of total capacity, as shown in Figure 3. The current 3,121 Bcf in storage represents about a one percent increase over the five-year average.

Many analysts believe that the 3,000 Bcf in U.S. storage inventories should provide a comfortable buffer for the U.S. winter peak demand, under normal conditions. As Figure 3 also shows, the U.S. started this injection season with low inventories of stored gas, compared to previous years. This led most analysts last spring to predict very high and volatile prices for the coming winter and to raise alarms about the ability of the natural gas market to meet the expected demand. Fortunately, the U.S. as a whole experienced moderate weather this summer and allowed the gas utilities and major private consumers to inject record amounts of natural gas into storage. As a result of current, robust storage inventory levels, many analysts have lowered their price predictions for this winter, although they still are concerned about the very tight balance between supply and demand.

Figure 3



In previous reports, we emphasized the need for adequate natural gas storage inventories for winter 2003-2004 to reduce the impacts of national price spikes on

California gas consumers. Maintaining adequate inventories is key to providing flexibility for gas buyers and sellers to balance supply and demand, and promoting a stable and reliable supply. Adequate storage also buffers volatile price movements in the market place by providing additional supplies inside the state, which have already been purchased.

The recent policy work at our Commissions have highlighted the need to fill California storage facilities to provide additional gas supplies to meet peak gas needs this winter. The Energy Commission's draft *Integrated Energy Policy Report* highlights this issue and the two Commissions have just announced a joint natural gas workshop for December 9-10, 2003 to address infrastructure issues, including the need for additional storage. Our primary objective is to ensure that consumers have a reliable supply of natural gas. Other than the natural gas pipeline systems, the state's storage facilities are the main tool available to the gas utilities and customers to meet this goal, particularly since the capacity of the pipeline system alone is not designed to meet peak day gas demand.

The secondary policy objective is to secure reasonably priced natural gas supplies. Major natural gas consumers can help by using stored natural gas, instead of purchasing gas on the spot market where prices can spike unexpectedly. The gas utilities have used this strategy effectively in the past to dampen the effects of market price spikes. Our Commissions believe that gas utilities and the industrial and power generation customers should continue to use storage to maintain stable supplies and dampen any price spikes this winter. The Energy Commission is currently conducting research to determine if even more storage would be advisable as a physical hedge against natural gas market price risks. Our Commissions will consider the results of this work when it is available next year.

Even though storage inventories have reached high levels, consumers' gas bills this winter are expected to be higher than last year, because the natural gas already purchased and injected into storage cost gas consumers more than last year. Since we believe natural gas spot prices could be higher this winter than they have been in the past three months if we have adverse weather conditions in California or the U.S., this "buy early and inject" strategy is a beneficial action to help guard against both supply disruptions and unexpectedly high market prices. However, the utilities have already cautioned their ratepayers that bills may be higher this winter than were during winter 2002-2003 and that additional conservation and energy efficiency efforts should be considered.

Natural Gas Market Outlook for the 2003-2004 Winter

Our Commissions do not normally provide a forecast of short term natural gas market prices. However, since there has been considerable attention paid this year to the health of national natural gas markets and numerous predictions have been put forth early this year regarding the severity of market conditions this winter, our Commissions are providing a summary in this report of expected market conditions as reported by other parties. Our Commissions do not take a position on these outlooks, but merely report on what they are stating. In short, market conditions have improved in

consumers' favor, but market prices are still higher than we have historically seen. However, weather will continue to be the largest driver of market prices since it determines the extent of heating demand during the winter. Unfortunately, there is considerable uncertainty in any current weather forecast for this winter. This view is based on a review of the natural gas market outlooks provided by the U.S. Department of Energy, Energy Information Administration, National Weather Service, Natural Gas Supply Association, and several other private energy and financial analysts.

The starting point for a national outlook on natural gas markets is the U.S. Department of Energy, Energy Information Administration (EIA). We have included excerpts from their October 2003 *Short-Term Energy Outlook—October 2003* dealing with natural gas as Attachment 1 and available on-line at www.eia.doe.gov/emeu/steo/pub/. We also have used their *Winter Fuels Outlook: 2003-2004*, available on-line at www.eia.doe.gov/emeu/steo/pub/win-outlook03.pdf. Together, these reports indicate that U.S. natural gas demand is expected to be two percent lower this winter as compared to last winter. U.S. natural gas production is expected to be very close to last year, and imports are expected to be up slightly, due primarily to increased LNG imports. Therefore, EIA is expecting a seven percent decline in natural gas market prices this winter as compared to last winter. These outlooks are based on average weather conditions.

The Natural Gas Supply Association (NGSA) has also published its *Natural Gas Winter Outlook: Winter Heating Season 2003-2004*, available at www.ngsa.org/facts_studies/winter_outlook_2003.asp. The NGSA is expecting an increase in demand, slightly reduced storage inventories, and overall supply about the same as last year. While they also assume average weather conditions, they do call out several "Wild Cards" that could significantly affect the demand/supply balance, and therefore market prices. These items that should be closely watched include: hurricanes, Middle East unrest, infrastructure disruptions, and access restrictions. The NGSA does not forecast prices.

Several private companies have also issued outlooks for natural gas market conditions this winter. Energy Ventures Analysis Inc, (EVA) is expecting demand to be about 1.8 percent lower this winter, as compared to last winter. Energy and Environmental Analysis Inc. is expecting supply to decline about 1 percent, as compared to last winter. Lehman Brothers have recently lowered their natural gas market price forecast by $0.20/MMBtu for all of 2003, lowered their 2004 forecast by $0.25/MMBtu, and lowered their 2005 forecast by $0.50/MMBtu.

However, the biggest uncertainty is related to the weather. The National Weather Service recently issued its 2003-04 winter weather forecast. It calls for warmer-than-normal weather for parts of the west and south, but overall says there is an equal chance of above-, below-, or near-normal temperatures for the rest of the U.S. this winter. Weather Services International (WSI) is calling for cooler-than-normal temperatures in the West and Central parts of the country through December and warmer-than-normal temperatures in the East during this time. In other words, while no one is expecting weather extremes, no one really knows what the weather will do.

The weather variability brings us back to the beginning of this report. While we can't change the weather, we can plan for adverse conditions and natural gas storage is currently our most effective physical tool to mitigate the effects of adverse weather. Our Commissions will continue to monitor all market conditions that affect natural gas demand, supply, and prices and work with the state's utilities to ensure our natural gas consumers' needs are met.

Short-Term Energy Outlook – October 2003

October 7, 2003 Release *(Next Update: November 6, 2003)*

Overview

World Oil Markets. EIA's outlook is for world oil prices to remain near $30 per barrel through the coming winter of 2003/2004. Prices remain firm rather than declining primarily because of OPEC's decision to lower oil production quotas.

OPEC's decision to cut its production targets reduces the chances for a large end-of-year stockbuild that OPEC feared could undermine oil prices. Even before OPEC's decision to lower quotas, EIA had projected that the Organization for Economic Cooperation and Development (OECD) commercial inventory situation would remain tight until the end of the year. Until these inventories are rebuilt above observed 5-year lows, which is not expected to occur until early 2004, West Texas Intermediate (WTI) crude oil prices should remain relatively high over the 3-6 months, then gradually slide to roughly $27 per barrel by late 2004 (Figure 1).

Winter Fuels Outlook. Heating fuel markets are poised to start the 2003-2004 heating season (October-March) with near-average inventory levels. As a result, the status of heating fuel inventories is not expected to significantly increase normal risk of sharp price spikes during the heating season. However, tight oil and natural gas markets have generated relatively high levels of crude oil and petroleum product prices during much of this year and natural gas spot prices are expected to average over $5 per thousand cubic feet for all of 2003, about 70 percent above the 2002 average. Heating fuel consumption levels, and heating oil and natural gas prices, are highly weather-dependent. EIA's baseline scenario, which assumes normal weather, projects average wholesale and retail prices of heating oil to be close to those observed last winter. Continued increases in residential prices are expected for natural gas, reflecting tightness in supplies for much of 2003 and lagged cost recovery by gas distribution companies in consumer bills. Residential electricity prices, which are much less volatile than natural gas or heating oil prices, are expected to be up only slightly this winter from year-ago averages. Compared to last winter, projected net changes in residential heating prices and expenditures compared to last winter are: Prices: almost no change for heating oil and propane; +9 percent for natural gas; +3 percent for electricity. Expenditures: -8 percent for heating oil; + 5 percent for natural gas; +2 percent for electricity; -3 percent for propane. All the above projections assume normal weather.

U.S. Natural Gas Markets. **Natural gas demand is expected to fall by 1.1 percent in 2003 due mainly to high prices discouraging demand, particularly in the industrial and electric power sectors, but also due to the lower weather-related demand following the first quarter of 2003. Accelerated economic growth and generally lower prices are projected to increase consumption in 2004. Working natural gas in storage is estimated to have surpassed 2.84 billion cubic feet (bcf) at the end of September, 6.7 percent below the year-ago level, but actually about normal. Natural gas production is expected to increase by about 2.1 percent this year. High natural gas prices and sharply higher oil and natural gas field revenues following the downturn in 2002 have resulted in strong natural gas-directed drilling activity this year.**

Details

Natural Gas: Historically high levels of natural gas have been injected into underground storage during the current injection season (April-October), pushing inventories of working gas to levels comfortably into the 5-year min / max range. As the winter season (October-March) commences, cash prices at the Henry Hub are below $5.00 per million Btu, a number high by historical standards but lower than the unseasonably high prices of the second quarter of this year. Displacement of gas demand by persistently high prices allowed the strong storage builds to occur. The target of 3 trillion cubic of working gas in storage by November 1 is likely to be exceeded. Assuming normal weather, spot prices in the $4.50-$5.00 per million Btu range can be expected for the winter of 2003-2004 (Figure 9).

At the end of September, working gas in storage was about 7 percent below end-of-September 2002 levels, but only 1 percent below the previous 5-year average. For 2003, wellhead prices are projected to show an increase of about $2.00 per thousand cubic feet (the largest U.S. annual wellhead price increase on record) over the 2002 level, pushing the annual average for this year to about $4.90 per thousand cubic feet. For 2004, average annual wellhead prices are projected to dip by about $0.90 per cubic feet (about 19 percent) as lower injection demand increases in net imports of gas (about 7 percent from 2003 levels) coupled with lower projected crude oil prices offset lower domestic production and higher consumption. Assuming normal weather, residential natural gas prices this heating season (October-March) are expected to be about 9 percent higher than last winter's average prices.

Natural Gas Supply and Demand

Natural gas demand is expected to fall by 1.1 percent in 2003 due mainly to high prices discouraging demand, particularly in the industrial and electric power sectors (Figure 12). The increase in consumption projected for 2004 is attributed to accelerated economic growth and generally lower prices.

This winter, demand for natural gas is expected to be about 2.4 percent lower than last winter's level, due largely to the effect of weaker heating-related demand. Gas-weighted heating degree-days for the season (Q4 2003 and Q1 2004) under our assumption of normal weather would be about 3.7 percent below year-ago levels. Winter natural gas prices are projected to be about 9 percent higher than last winter in the residential sector. In the event of colder-than-normal weather this winter, natural gas prices could go higher.

Working natural gas in storage is estimated to have reached 2.84 billion cubic feet (Bcf) at the end of September, about 7 percent below the year-ago level (Figure 13), but well within recent historical norms. This marks a strong improvement in the storage situation since the spring lows.

Natural gas production is expected to increase by about 2.1 percent this year. High natural gas prices and sharply higher oil and natural gas field revenues have resulted in strong natural gas-directed drilling activity this year following the downturn in 2002 (Figure 14). Monthly oil and natural gas field revenues are expected to continue to average over $400 million this year (Figure 15). The prospects for significant reductions in natural gas wellhead prices over the forecast period hinge on the productivity of the increased drilling in terms of expected output. An average natural gas wellhead price of about $3.97 per thousand cubic feet (mcf) is projected for 2004, about $0.90 per mcf lower than the expected 2003 average, partly based on our belief that natural gas production will rise modestly in 2003 and remain close to improved levels in 2004.

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